UNIVERSITI TEKNOLOGI MARA

CTA534: INTERMEDIATE 3D COMPUTER ANIMATION

Course Name (English)	INTERMEDIATE 3D COMPUTER ANIMATION APPROVED
Course Code	CTA534
MQF Credit	3
Course Description	This course is an extension of Digital Animation Technology course which provides the indepth on character animation and rigging. Students will experience the character animation skills of building a skeletal structure for keyframe animation of the 3D model through the understanding and application of the principles of animation
Transferable Skills	1. Demonstrate ability to apply creative, imaginative and innovative thinking and ideas to problem solving. 2. Demonstrate analytical skills using technology.
Teaching Methodologies	Lectures, Lab Work, Practical Classes
CLO	CLO1 Develop characters design based on script and character profile CLO2 Transform character design into 3D character modeling and animate character facial expression CLO3 Adapt animation technique by constructing character walkcycle
Pre-Requisite Courses	No course recommendations

Topics
1. Introduction 1.1) Character Design & Development
2. Character emotion and moods 2.1) Understanding types of human and animal locomotion
3. Modeling Human/Cartoon Character 3.1) anatomy and modeling body part
4. Modeling Human/Cartoon Character 4.1) modeling body part
5. Modeling Human/Cartoon Character 5.1) contour and modeling head
6. Modeling Human/Cartoon Character 6.1) modeling head
7. Texturing and mapping 7.1) Pelt mapping
8. Rigging and skeleton building 8.1) Biped
9. Rigging and skeleton building 9.1) Skin
10. Facial expression 10.1) Morpher
11. Walking mechanics and Walk cycles 11.1) Inverse Kinematics & Forward Kinematics
12. Rendering 12.1) Camera, lighting and rendering

13. Revision and Work Progress 13.1) Troubleshooting
14. Final Project Submission and Presentation 14.1) Final presentation

Assessment Breakdown	%
Continuous Assessment	100.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Assignment	Character Development	25%	CLO1
Assignment	Character Modeling & Facial Expression	55%	CLO2
Final Project	Character Walkcycle	20%	CLO3

Reading List

Recommended Text

- **Richard Williams 2012, *The Animator's Survival Kit: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Internet Animators*, Faber and Faber, Inc.**
- **Andy Beane 2012, *3D Animation Essentials*, John Wiley & Sons, Inc [ISBN: 978-11181474]**

Reference Book Resources

- **William Vaughan 2012, *Digital Modeling*, Pearson Education, Inc. [ISBN: 978-032170089]**
- **Jeremy Birn 2014, *Digital Lighting and Rendering*, New Riders [ISBN: 978-03219289]**
- **Eadweard Muybridge 1979, *Muybridge's Complete Human and Animal Locomotion : All 781 Plates from the 1887 Animal Locomotion:***

Article/Paper List: This Course does not have any article/paper resources

Other References: This Course does not have any other resources